Vol. X FEBRUARY, 1899 No. 2

The National Geographic Magazine

AN ILLUSTRATED MONTHLY

Editor: JOHN HYDE

Associate Editors

A. W. GREELY W J McGEE HENRY GANNETT
C. HART MERRIAM ELIZA RUHAMAH SCIDMORE

CONTENTS

PAGE

THE ECONOMIC CONDITION OF THE PHILIPPINES.
With illustrations. MAX L. TORNOW. 33

MANILA AND THE PHILIPPINES.
MAJOR A. FALKNER VON SONNENBURG. 66

WASHINGTON
PUBLISHED BY THE NATIONAL GEOGRAPHIC SOCIETY
FOR SALE AT BRENTANO'S;
31 UNION SQUARE, NEW YORK; 1015 PENNSYLVANIA AVENUE, WASHINGTON;
218 WABASH AVENUE, CHICAGO; 37 AVENUE DE L'OPERA, PARIS

Price 25 Cents REPRINT $2.50 a Year

Entered at the Post-office in Washington, D. C., as Second-class Mail Matter

THE

National Geographic Society

PRESIDENT

ALEXANDER GRAHAM BELL

VICE-PRESIDENT

W J McGEE

BOARD OF MANAGERS

1896–1899	1897–1900	1898–1901
CHARLES J. BELL	MARCUS BAKER	A. GRAHAM BELL
WILLIAM H. DALL	HENRY F. BLOUNT	HENRY GANNETT
DAVID T. DAY	F. V. COVILLE	A. W. GREELY
HERBERT G. OGDEN	C. HART MERRIAM	JOHN HYDE
H. S. PRITCHETT	WILLIS L. MOORE	W J McGEE
ELIZA R. SCIDMORE	W. B. POWELL	F. H. NEWELL

TREASURER

HENRY GANNETT

RECORDING SECRETARY

F. H. NEWELL

CORRESPONDING SECRETARY

ELIZA RUHAMAH SCIDMORE

SECRETARY'S OFFICE

Rooms 117-118, Corcoran Building, Fifteenth and F Streets N. W., Washington

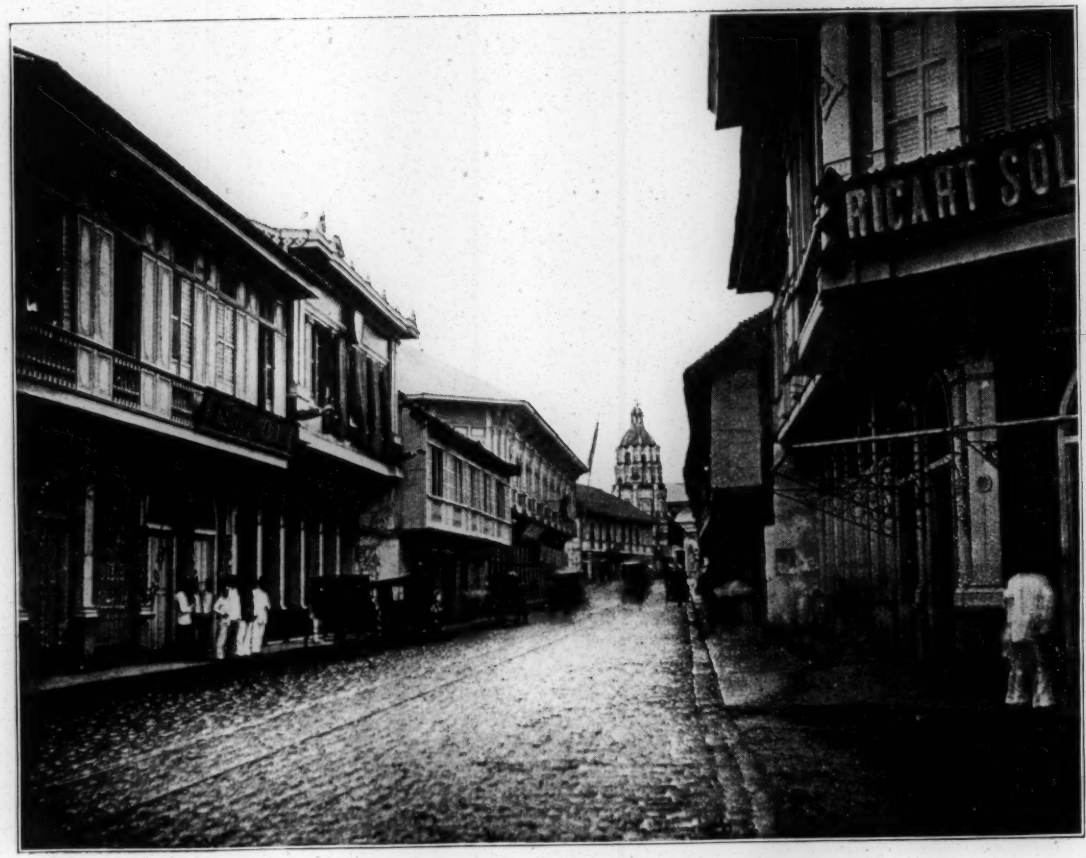
---

TREASURER'S OFFICE

U. S. Geological Survey, 1330 F St. N. W., Washington

National Geographic Magazine—Back Numbers

The Society is prepared to purchase Vols. I, II, III, and IV, or Nos. 2 and 4 of Vol. I, 2 and 4 of Vol. II, 1, 3, 5, and 6 of Vol. IV, and 6 of Vol. VII. Members or subscribers having these volumes or single numbers to dispose of are requested to communicate with the Secretary.



CALLE ESCOLTA PRINCIPAL STREET IN BINONDC

THE
National Geographic Magazine

VOL. X FEBRUARY, 1899 No. 2

THE ECONOMIC CONDITION OF THE PHILIPPINES

By MAX L. TORNOW,
of Berlin and Manila

General interest in the Philippines, a group of islands long all but forgotten by the rest of the world, has been again thoroughly awakened by the recent cannonade off Cavite. Even with the final settlement of the Philippine question, it is scarcely to be expected that the islands can again fall into forgetfulness. A glance, therefore, at the economic condition of the country, with a few of the more important statistics, will not be out of place, for an exhaustive consideration of the subject would occupy far more space than the present article admits of.

AGRICULTURE

Commencing with the products of the soil, two important points strike us as testifying to the varied and fertile character of the land: the geographical position of the islands, embracing 16 degrees of latitude, and the plentiful supply of water On the other hand, in addition to smaller obstacles raised by the administration, particularly as regards large plantations, the want of labor militates seriously against industrial extension, so that of the arable land only a very small part is today under cultivation. The result is that, notwithstanding the richness of the soil, we find that the total returns are nothing like what they should be.

Not only do all tropical fruits flourish, but also the plants of the temperate zones, such as wheat, barley, and potatoes. Experiments were made some years ago with wheat and barley and

met with every success; and there is today a German planter in Benguet cultivating potatoes. I am fully convinced that in certain parts the vine could be grown, and at all events those fruits which demand a mild climate. Attempts have been made with tea to a limited extent, and the results have not been unfavorable; but to all extensive planting—and this is the only way in which it is remunerative—the want of railways, good roads, and laborers presents the greatest difficulty. Not less annoying is the attitude assumed by the Spanish officials and the monks, unless the planter is ready to dance at their command.

The principal agricultural products exported are sugar, hemp, and tobacco, and to a less extent coffee, the cultivation of which, however, has of late greatly decreased. Indigo, sapan-wood, and copra must not be left unmentioned, for they may certainly be expected to take a higher place in the Philippine trade in the future than is the case at present. Rice and maize are grown only for home consumption, and even for this purpose the supply is not large enough. Rice is imported from Saigon and Bangkok and cocoa from Java, although the extremely fertile soil of the Philippines could produce all that is required at home and enough to admit of a large export trade as well. Formerly—from 1850 to 1860, and perhaps later—rice was exported from the islands, but the quantity gradually decreased until exportation ceased altogether, and finally the grain began to be imported. The blame lies with the miserable administration of the country. The planter can no longer compete with Rangoon, Saigon, and Bangkok, where the authorities know how to meet the farmers when necessary, and where ships are not exposed to endless chicanery, such as is practiced by the Manila custom-house officials. For this reason most foreign vessels are careful to steer clear of the latter port. Sugar is chiefly exported from the Visayas islands, and the trade is almost exclusively *via* Iloilo, the largest place after Manila, situate on the island of Panay. Cebu, the third largest port of the archipelago, does now but a small and steadily declining trade in hemp.

The best tobacco grows in the north of Luzon, in the province Isabella, and the south of Cagayan, the most northern province of that island, in the valley of the Rio Grande de Cagayan. The northern provinces of Luzon, from the Gulf of Lingayen, in the west, to the Pacific, are separated from Manila by a range of high mountains, the Caraballo, over which there is, with the exception of a path and the telegraph, no road whatever, much less a

railway. The tobacco, therefore, is sent on covered boats, called "barangaijanes," down the Rio Grande to Aparri, and there shipped by steamer to Manila. A flat-bottomed steamboat also runs from Ilagan, when the water allows it; otherwise it goes only as far as Tuguegarao. In this way the transport from the

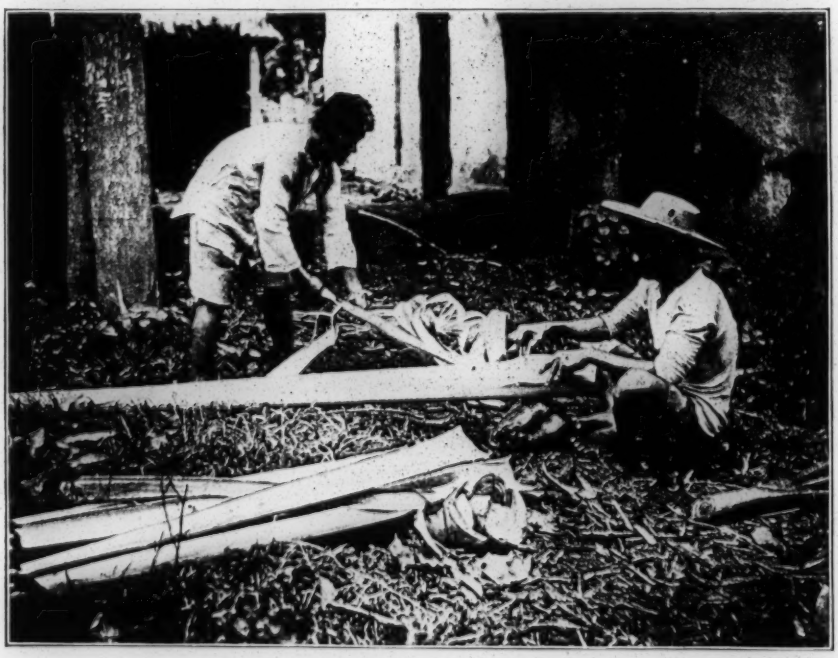
CUTTING THE HEMP TREE, MUSA TEXTILIS

most southern tobacco center, Echague (which as the crow flies is only about 150 miles), often takes as much as three weeks.

Tobacco has also been planted on the west coast of the northern part of Luzon and on the Visayas islands. This, however, is of inferior quality, and is mostly exported to Spain. In

Manila it is not used, except, perhaps, by the Chinese factories for inferior cigarettes. Regarding the tobacco monopoly, abolished in 1883, I shall have some remarks to make later.

An important and world-famed article is Manila hemp, or abaca, a product of the *Musa textilis*. It is remarkable that, although there are the most various species of the *musa* flourishing all over the tropics and in warm climates generally, the *Musa textilis* appears to thrive to the best advantage only in the Philippines. Attempts to grow the plant in other places have been uniformly unsuccessful. Like its better-known relative, the edible banana (*Musa paradisiaca*), the stem of the plant is formed by the leaf-stalks, in the center of which again is the blossom-stem. The finest growth is obtained in the volcanic and rainy districts of the Philippines, more particularly in Camarines Sur, Albay, Samar, Leite, Marinduque, Cebu, and in some of the small neighboring islands, as well as in Negros and Mindanao. The valuable hemp-fiber is found in the petioles, from which it is taken before the plant has borne fruit, as otherwise the fibers lose in elasticity and luster. In two or



SEPARATING THE PETIOLES OF THE MUSA TEXTILIS

three years the plant has usually attained such growth that it can be cut down, the leaves removed, the green epidermis stripped from the stem, and either the bast-strips torn off lengthwise or the petioles separated singly, and the inner membrane, with the pulpy portion of the plant, removed. The bast-strips thus

THE BAST STRIPS OF THE MUSA TEXTILIS DRAWN FOR THE FIRST TIME UNDER THE KNIFE

obtained are then drawn under a knife in order to scrape away any pulp that may have remained on them. The product, after having been dried in the sun, is then ready for shipment. This process, though simple, involves a great loss of fiber, which might be avoided by the use of more efficient stripping machines. It is difficult to accustom the natives to anything novel, but when once progress has gained a general footing headway will soon be made in particular paths also. Manila hemp has so far been equaled by none, much less excelled.

The principal article is fair current, with its higher and lower grades. Of less importance are quilot and the silk-like lupiz,

which, besides their use in the manufacture of fine native fabrics, are also employed for superior toilet articles in Europe, especially in the ladies' hat trade. From the current sorts excellent ships' cables and miners' ropes are made, and in America, where great quantities are consumed, they are used to make grain-binders for harvesting. Hemp comes into the market in bales of two Spanish piculs (280 pounds English). The price varies much, being subject often to great fluctuations, which naturally give rise to speculation. About the middle of

THE BAST STRIPS OF THE MUSA TEXTILIS AFTER BEING DRAWN SEVERAL TIMES UNDER THE KNIFE

the present century the price ranged between $4.00 and $5.00 (with high course of exchange), steadily rising. In the sixties we find it from $7.00 to $9.00, and in the eighties $11.00 was the average. In 1890 it was artificially pushed up to $17.00, an immense crash being the natural result, and all this at a high or even higher course (3/3½d–3/11d per $). The course now began to fall steadily, until after the outbreak of the war it stood at 1/10½d. Of late the prices for fair current have been between $6.00 and $9.00 per picul, at a course of 2/, and at the end of

April the ton was sold in London at £19. During the blockade of Manila the price was pushed up to nearly £40. At the end of the war it fell again to £28 10.

In 1818, 261 piculs, worth $4.00 per picul, were exported. After that there is no record of the exportation of hemp until 1840. In that year the amount exported is stated to have been 136,034 piculs (8,502 tons). Thirty years later, in 1870, the amount had risen to 488,560 piculs (30,535 tons). The export then increased still more considerably. The following figures show how it has stood during the past six years:

	Piculs.	*Tons English.*
1892	1,581,100	98,818
1893	1,282,942	80,184
1894	1,591,962	99,497
1895	1,664,590	104,038
1896	1,531,810	95,738
1897	1,689,754*	105,610

The chief consumers are England and the United States. The relative consumption by the different countries in 1896 is seen from the following table:

	Piculs.	*Tons English.*
England	815,044	50,940
United States	615,554	38,473
China and Japan	49,494	3,093
Australia	33,892	2,118
Singapore and India	12,166	760
European continent	5,660	354
	1,531,810	95,738

The difference between the large export to England and the small amount which goes to the continent, the very last on the list, is striking. England, however, acts here only as middleman, selling extensively again to the continent, which accordingly buys at second, or rather third, hand.

Various species of the cocoanut palm are found dispersed throughout the whole archipelago, though the exportation has been considerable only during the last few years. Under a more satisfactory state of affairs in the interior of the country, the export trade in copra promises to increase still further in spite of the large consumption of the nuts by the natives themselves. The meat of the cocoanut forms a staple article of food, both raw and prepared.

* From Manila only.

The archipelago is very rich in timber, notwithstanding that the exploitation for building purposes has been going on for over 300 years, and exportation was once very large; nor have new plantations ever been thought of. Sapan-wood for dyeing purposes is also a product of the islands, and there is a regular, though small, export trade done in it.

That the Philippines are among the most fertile colonies on the face of the earth is well known and has been frequently commented upon. It is less generally known that they are also among the most neglected colonies in the world. According to the Spanish authorities themselves, only one-tenth of the available arable land is under cultivation; as a matter of fact the amount is much less. What might not be made of this beautiful country were this mismanagement to be brought to an end.

Cattle-breeding has been carried on by some mestizos for many years, evidently with success or the business would have died out. Of late it has been found more profitable to import the extremely cheap Queensland cattle. But the fact that cattle thrive almost everywhere is a proof that cattle-breeding on an extensive scale is possible. A small number of sheep are imported from China

STREET IN BINONDO, WITH BUFFALO CARTS

for consumption by foreigners. It is by no means improbable, however, that in some provinces, at any rate, they would thrive well. There are but few goats. Of swine and poultry, on the other hand, there is a surplus, the flesh of the former especially forming a favorite article of diet with the natives.

In addition to the small but very tough horses, resembling those of Java, that most useful of domestic animals, the "carabao," or black (gray) buffalo, thrives abundantly. The white species is also occasionally to be found. The buffalo is employed for many purposes—for working the pumps on plantations, for sugar presses, and for draught purposes. In the mountains the buffalo is met with in the wild state. It is, however, undoubtedly only the domestic species that has been neglected. Nevertheless, in the course of years the degeneration has been so great that there now exists a clear distinction between the wild and the domestic buffalo. The wild animal has a more compact head and short horns, while the domestic animal has a long head with long, broad horns. Neither the horse nor the buffalo is indigenous to the Philippines; both have been imported by the Spaniards.

MINERALS

But the arable land does not form the only resource of the country, little regarded as it has unfortunately hitherto been. There is another and doubtless not less valuable property in the mineral riches now slumbering beneath the ground.

The islands yield pit-coal, iron, gold, silver, copper, etc., for the most part of good quality; and recently petroleum has been struck. Careful and expert explorations have several times been undertaken by engineers, yet never to the extent necessary to start lucrative mining, nor yet over a sufficiently extensive area. The former "inspector general de montes," Don José Centeno, and Don Antonio Hernandez are deserving of special mention for their work in this direction.

Coal is probably spread over the whole archipelago. It was first discovered in 1827, in the island of Cebu; then in Negros and Mindanao; on the island of Luzon, in Camarines and Albay, and in many other islands. The wealth thus appears almost inexhaustible. The coal in Cebu is of the best quality, numerous experiments having shown it to be equal to Newcastle coal. Hernandez found four seams running parallel from north to south at a small depth and 95 miles long. In 1874 four further

seams were found about 7 miles from the coast, near Compostela, where Don Isaac Con-ui worked the Caridad and Esperanza collieries in a small way. In Albay, one mile southeast of the small harbor of Sugod, is one of the most extensive of the many seams which have been found in Albay. It is 5 or 6 yards deep and runs for a long distance. From this mine, from different places over a distance of a mile or more, 130 tons of coal were dug and practically tested on some steamers. According to the reports of the man-of-war *Berenguela* and the steamships *Butuan* and *Corregidor*, which experimented with the coal, the latter resembles that of Australia, with the advantage of being less bituminous. This is in agreement with the scientific analyses and trials of the coal made in Madrid. Small workings were begun, but exploitation corresponding to the value of the coal fields could not be looked for, as with the fickle government and administrative mismanagement, capitalists feared to finance such undertakings. Especially were foreigners subjected by the government to every possible hindrance, so that a profitable return seemed questionable and the capital invested in danger. The workings were consequently very limited, and up to this day Australia and Japan export coal to Manila—a state of things which, it may be hoped, will soon be changed.

Iron also has been found in many of the islands. The best is that in Luzon, in the provinces of Morong, Laguna, Bulacan, Nueva Ecija, Pampamga, and Camarines, which, according to Centeno, compares most favorably in quality with that of Sweden. The ore contains from 75 to 80 per cent pure iron, and is found in the midst of immense forests, so that there is thus a permanent supply of fuel, if properly used. In addition to this, there is often water-power in the neighborhood which could be profitably utilized. In the above-mentioned provinces Centeno discovered large masses of almost pure magnetic iron oxide (hierro oxidulado magnetico, casi puro). After what has been said above, it is not surprising that here also there has been no thorough exploitation. In the province of Bulacan the natives manufacture a very primitive iron plowshare and pots for cooking (carahays), but even here there has been a gradual decline since the commencement of this century.

Copper exists in the provinces of Tayabas, Camarines Sur, and Antique, and on Masbate; the best quality, however, in the district of Lepanto (Luzon), near Mancayan, Suyuc, Bumuan, and Agbao. Here mines were worked by the Compañia Canta-

bro-Filipina, but abandoned after about ten years, in spite of the wealth of mineral, on account of the scarcity of labor. The first specimen of black copper was obtained in 1864. In 1867 the output was 2,464 quintals (2,231 cwt. 83 lbs.) of fine copper; in 1870, 4,020 quintals (3,641 cwt. 8 lbs.). The want of workmen then caused the yield to decline, until in 1875 the mines were closed altogether.

It is probable that gold occurs in every part of the archipelago. In a small way it has been extracted by the natives for many years in certain places, particularly in Luzon. It is found in stratified and in creeks, from which the natives prefer to wash it. The best known sources are in Camarines Norte, the mountains of Mambulao, Paracale, and Labo and the northern spurs of the Caraballo mountains. Alluvial gold is said to exist largely in Nueva Ecija, near the village of Gapan. In Tayabas the metal is found in the mountains in the neighborhood of the village of Antimonon. In Mindanao, where gold has likewise been discovered, it is believed to be present in particularly profitable quantities. Mindoro, Panay, as well as some other small islands, are also places where the precious metal has been found.

It now remains to inquire into the question whether it would pay to work gold mines at all, for as yet, at all events, no positive proof has been furnished of gold mines being profitable, although during the last few years the subject has been much discussed. In 1893 the Mambulao Gold Mining Syndicate was formed in London, engineers were sent out, and workings were actually commenced in Mambulao. Difficulties, however, arose, the principal one no doubt being that a large part of the shares were not allotted, and the working capital was therefore too small. In general, the participators speculated on the advantageous sale of a part of their concession and the starting of a limited-liability company. Something of a gold fever broke out in Manila, and on all sides concessions were acquired by Englishmen, some Germans, and Swiss. Not one of these concessions, however, seemed the result of a sound *bona fide* project. The object in view was always the promotion of companies and disposal of the concession at a good profit, leaving all the risk to the shareholders. It is not impossible that this would actually in some cases have taken place, and that it would have been followed by a speculation in shares similar to that on a former occasion in Singapore and Hongkong, to the detriment of general trade. The rebellion of 1896 fortunately put an end

to speculation. European capital for such purposes was not to be found during the disturbances, and methodical working in some provinces was equally impossible, quite apart from the other difficulties mentioned above.

Centeno further states that mercury was formerly found in various places. At the end of the last century a bottle was sent to Manila from Mindanao and a second from Capiz. In 1848 mercury was discovered in Casiguron, in the province of Albay, but the general opinion was that the find was altogether insignificant. At all events, none of these discoveries appears to have been of any importance.

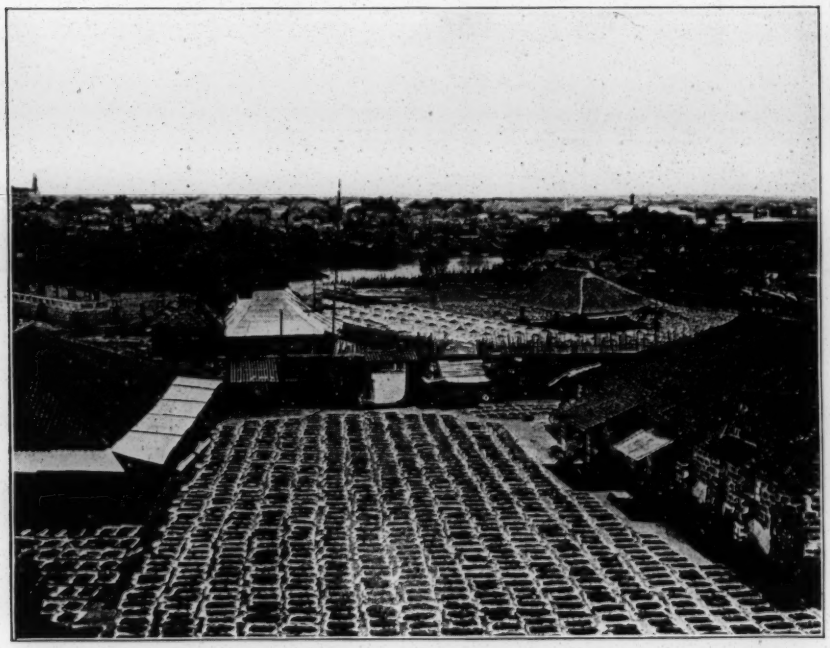
At the beginning of the seventies two beds of galena were discovered in Cebu, in the neighborhood of the village of Consolacion. Specimens were analyzed at the mint at Manila and showed, it is true, only 47 per cent of lead, but also 1 ounce of gold and 2 ounces of silver per hundredweight. Nevertheless, the beds were not of sufficient significance to assure profitable working even on a small scale, so the mines were again abandoned. The department of mines in Manila did certainly recommend further exploration in Cebu, but, so far as I am aware, active steps were never taken. In Mambulao and Paracale the beds of galena and red-lead ore have more than once been got ready for working and are probably very rich. The workings, however, have always been abandoned again—chiefly, it may be surmised, on account of these Spanish undertakings being insufficiently provided with capital from the commencement and because of the lack of the necessary circumspection.

There is naturally an abundance of sulphur in this volcanic archipelago, that which occurs on the Bulusan, in Albay; the Taal, in Batangas, and the Apo, in Mindanao, being of fairly pure quality. Really extensive beds, worthy of exploitation, were found years ago in Leite, in the interior, not far from Dulag, and were worked on a small scale by the natives. In 1818, 3,410 piculs, at $2.50 per picul, were exported, and Dr Jagor states that the price paid in Manila for this sulphur in the fifties was from $1.50 to $4.50. For the last twenty years, however, the sulphur industry has been wholly dead. Alabaster is found in Camarines Sur, and there is a beautiful marble at Bohol and Guimaras, near Iloilo. Granite of excellent quality is quarried at the other side of the Bay of Mariveles, opposite to Manila. Rock oil was found some years ago in Cebu and Paragua and promises to be of importance. I have neither seen samples nor

come across any official report on the matter, but I have received direct information from various trustworthy Indians and mestizos.

MANUFACTURES

With the exception of the cigar manufacture, which until January 1, 1883, was monopolized by the government, the islands are not of industrial importance. Manila possesses two large sugar refineries, some distilleries, and rope works. Lately



SUGAR DRYING AT MANILA

rice mills and a flour mill have been set up in Luzon to meet the requirements of the island. The hats made by the natives of strips of reeds in Baliuag also play an important part in the export trade, being shipped largely to America and Paris. The cigar cases (petacas), likewise manufactured in Baliuag, are of less importance. Though of no great significance for the trade, the ilang-ilang essence should be mentioned, the Philippines being the only place where it is produced. The essence is made from the green blossom of the ilang-ilang tree, one of the Anonaceæ (*Anona adoratissima* according to Blanco, *Cananga*

adorata according to Hook), and finds its way principally to Paris. It forms the basis of all finer quality perfumes and has indeed become an almost indispensable article in the perfumery trade. The distillation of the essence and the business generally connected with it are carried on exclusively by Germans.

Coach-building is of great importance in Manila. The home demand is enormous, as every inhabitant of any standing has his carriage, and the wealthier mestizos excel in the luxury of their vehicles.

That soap and other such articles of popular use are manufactured, it is scarcely necessary to state. There are also three lithographic establishments, owned by Germans.

Besides the Baliuag industry above referred to, the natives manufacture excellent homespun fabrics of cotton, hemp, silk, and piña, the fibers of the pine-apple leaf. Piña-cloth embroidery is also a domestic industry. These articles do not enter at all into the export trade today, but they may certainly be expected to do so before long, the more so if the industry continues to advance as it has done during the past year or so, as regards not only the fabrics themselves, but also the designs and colors. Some coarse hemp textiles have already been exported within the last few years. The finer hemp and hemp and silk fabrics, though much prized by ladies for dressmaking, have not yet entered into the trade, not having so far found favor with the Parisian costumers. A most interesting display of the produce of the Philippines was made at the exhibition (Exposicion Regional de Filipinas) which was held at Manila by the government in 1895.

It is certain that the Philippines, whose future is already assured by their mineral wealth, will play a part in the industry of the coming years equal to, if not surpassing, that of Japan.

COMMERCE

There seems to me to be no doubt that even before the arrival of the Spaniards these islands had relations with the Malay archipelago and China, and to a certain extent carried on barter, particularly with the latter country. Regular trade, however, first began to develop in 1571, when Legaspi established himself in Manila. The inhabitants of Cagayan related to Don Juan de Salcedo in 1572 that their cotton fabrics were brought every year by Chinese and Japanese vessels.

Manila is without doubt the most advantageously situated

MANILA HARBOR

port and trading place in the East, and forms the center of the trade between China, Japan, the Dutch archipelago, and Australia. The position of the Philippines is likewise extremely favorable for the west coast of America, and Manila should be the natural mart of eastern Asia. That it does not already occupy this position is owing to the bad system of administration on the part of the government. Had it been otherwise, I am exceedingly doubtful whether Hongkong could ever have reached its present state of importance in the face of Manila.

During the northeast monsoon most ships going through the straits to China run right across to Luzon to get protection against the strong adverse winds. It would therefore be quite in their course to touch at Manila, but they avoid the port for the reason stated above—the chicanery of the customs officials. For the same reason the regular steamers between Hongkong and Australia steam right past the Bay of Manila without running in. Passengers from Manila to Australia have therefore first to cross to Hongkong, and then take passage from there, returning again directly past Manila and Zamboanga (so close to the latter that the people may almost be recognized on the shore), to the first touching place—Thursday island or Port Darwin.

After 1572 trade commenced also between Manila and New Spain, which for individual Spaniards in Manila proved very profitable. Between 1590 and 1595, however, the citizens of Manila petitioned several times to the King for liberty of trade, but always in vain; the restriction on commerce remained as before. In 1610 the Seville merchants begged that the trade between Manila and New Spain might be closed, as they wanted to do business direct by the Cape with Manila without the intervention of the American colonies. This was, nevertheless, impossible, on account principally, no doubt, of the fact that the Acapulco silk trade gave occupation to over 14,000 persons in Mexico.

Galleons were sent every year from Manila to Navidad, and from 1602 to Acapulco, containing merchandise to the value of $250,000, the maximum permitted by the government, and bringing back double the price. Later this maximum rose to $300,000, and in 1734 to $500,000. Finally the amount reached $600,000, and the home freight double the value. From Manila the galleons, called *naos*, took spices, cotton fabrics, silks, etc., with gold articles and other products of China, India, and the Philippines. Fifty thousand silk stockings are also especially

mentioned. (Refer: Lord Anson's "Journey Round the World," 1749, and the description of Spanish commerce by J. C. S., Dresden, 1763.) The home freight consisted chiefly of silver dollars, and there were also passengers—persons going to seek their fortune in the Philippines—and officials and soldiers sent out by the Madrid government as substitutes.

The merchandise yielded twice its value in Manila, and, as is recorded, sometimes even four times, which in certain cases may no doubt have happened. The profit, however, did not all go into one pocket, but was divided among a number. The government issued warrants (boletins) restricting the shipping of cargoes to the monasteries, pensioned officials, and other privileged persons, who then sold them to merchants. In this manner the profits were distributed. The result was that merchandise of very high value was shipped, and the *nao* often so packed with cargo that the guns had to be stowed away. On the home journey there was often over $3,000,000 value on board. As these ships were maintained at the expense of the government, it is natural that a portion of the shipping fees was reserved for the royal exchequer.

Generally the well-laden *nao* sailed from Cavite in July, steering northward to 30°, where, taking advantage of the western winds, it made straight for the shores of California, then coasting southward to Acapulco. The voyage was always most difficult and dangerous and often very long, lasting sometimes six months or more. In later years the ships sailed more commonly through the Straits of San Bernardino, south of Luzon, though this did not shorten the voyage. Arrived at the California coast, they ran into San Lucas, where they took in provisions and received information as to the movements of pirate in the waters—naturally a matter of great concern, considering the value of the cargo. The home voyage to Manila was easier and quicker, seldom occupying more than two months. The ship sailed southward from Acapulco to about 10° N., whence it took the passage to the Marian (Ladrone) islands, and then further, through the Straits of San Bernardino, to Manila. As the time arrived when the *nao* might be expected, nightly fires were lighted on two high rocks, so that the vessel could find her way through the islands. (In old works the islands Guam and Rota are mentioned.)

The *naos* were vessels of 1,200 tons or even more, and were manned as warships and armed with 50 or 60 cannon. Not-

withstanding this, they, with their costly cargo, sometimes fell a prey to privateers, pirates, and the warships of hostile powers. In June, 1743, Lord Anson, on board the *Centurion*, captured the *Nuestra Señora de Cabadonga*, a much larger galleon, commanded by Don Jeronimo de Montero, off Cape Espiritu Santo, on the Samar coast.

The captain of a galleon, who bore the title "general," received in the Acapulco trade a percentage amounting to about $40,000 for each voyage. The first officer also was paid a commission.

Toward the end of the last century the profits began to decline, decreasing more and more; sometimes the ships even found the market in Acapulco perfectly flat, without any demand. This was chiefly because of American traders and English merchants supplying all the requirements direct from Europe; but smuggling also played its part. Thus it often happened that the ships were unable to return for long periods of time. The last *nao* which left Manila in 1811 did not return from Acapulco until 1815.

In 1785 the Real Compañia de Filipinas (Royal Company of the Philippines) was started, having its seat in Cadiz and with a capital of $7,000,000. This company more or less monopolized the whole trade until, on August 15, 1789, a decree was issued permitting European vessels to import Asian produce and to export only such Spanish, Philippine, and American produce as the compañia had imported. A second decree, dated October 15, 1803, deprived the compañia of still further privileges and declared the harbor of Manila open to all nations. Certain rights, however, the compañia still retained. In 1814 absolute liberty of trade was allowed to the whole world. As the result of the introduction of the new Codigo de Comercio, July 15, 1833, the privileges of the compañia ceased altogether in 1834. A year later the exportation of manufactured tobacco and cigars was also permitted.

Until the close of the last century (1792) foreigners were not allowed to settle in Manila (although La Perouse, 1787, mentions the French merchant Sebir in connection with that town). As soon as the permission was granted the first foreign houses were established, and the number has continually increased, so that today the external trade is almost exclusively in foreign hands. The year 1851 saw the establishment of the Banco Español Filipino; but by reason of bureaucratic formalities and the strict

limits imposed, transactions were much impeded. It is only in recent years that matters have improved, rendering a fair and easy banking business possible. Up to 1860 and still later banking transactions were therefore done almost wholly through two large American houses. Today we find branches of the Chartered Bank of India, Australia and China and of the Hongkong & Shanghai Banking Corporation doing the principal business.

The consulado, established in 1772 and removed on January 1, 1834, and the Junta de Comercio, founded on January 1, 1835, have done practically nothing at all for trade and shipping. The export and import trade, as already remarked, lies almost exclusively in the hands of foreigners, principally English, Germans, and Swiss. The retail and intermediate trade is done by the Chinese. The Spanish, in addition to the Compañia General de Tabacos de Filipinas, which, however, pays but a small dividend, and some inland traders, own a number of provision stores and of millinery shops for town costumes.

How greatly the trade done by foreigners surpasses that of the Spanish is seen from the accompanying tables, giving the external shipping trade and tolls. Since 1896 there has been no American house in Manila.

The traffic between Manila and the provinces is carried on mostly by means of 35 steamers and a large number of smaller sailing vessels. The sole railway runs from Manila to Dagupan, the port of Pangasinan, a rice-growing province on the west coast of Luzon, on the Gulf of Lingayen. The only large line of ships touching at Manila is the Compañia Transatlantica, from Barcelona to Manila, which, however, also has Liverpool as a shipping port, as the steamers would otherwise scarcely be able always to secure a full cargo. The chief profits of the line are no doubt earned from the enormous transport to and fro of officials and soldiers; in nearly every ship all berths are occupied. There is a brisk trade done with Hongkong through four or five steamers under the British flag, for the largest part of the goods goes *via* Hongkong, being transshipped. A steamer runs to Singapore, meeting the French mail steamer, by which the principal European postal traffic is carried on.

Despite the fact that the foreign flag was everywhere at a disadvantage and the Spanish, on the contrary, privileged, the former has always been the one really dominating. Though formerly foreign vessels were obliged to run in in ballast, they nevertheless took outward freight. The privilege allowed to the

Spanish flag remained intact until 1872, and consisted at that time in a reduction of 25 per cent on the custom-house charges. This was gradually diminished every year by 5 per cent, and in the last year by 10 per cent at once.

The following table shows the state of the shipping trade in Manila in earlier years:

	1827.		1828.		1829.	
	Incoming.	Outgoing.	Incoming.	Outgoing.	Incoming.	Outgoing.
Foreign ships.....	96	98	99	89	146	145
Spanish ships.....	34	29	31	38	41	43
Total.....	130	127	130	127	187	188

In 1868, 112 foreign vessels, aggregating 74,054 tons, mostly in ballast, entered to take up cargo, and 93 Spanish vessels entered and sailed with cargo. To show a comparison of the trade during the past two years, I have compiled the following table:

	1896.				1897.			
	Incoming.		Outgoing.		Incoming.		Outgoing.	
	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.
Foreign.....	181	264,868	175	251,439	204	301,199	197	292,219
Spanish.....	47	92,541	49	95,802	48	84,326	50	88,649
Total.....	228	357,409	224	347,241	252	385,525	247	380,868

At the commencement of the century the imports were far greater than the exports; then the two became about equal, and finally the exported goods ranked first. In recent years the exports have always exceeded the imports by some 30 per cent, a very promising sign of the productive capacity of the country.

The imports to Aragon in 1818, according to the duties paid, amounted to—

Under foreign flag	$1,680,200 25
Under Spanish flag	616,071 85
	$2,296,272 10

as against an exportation of—

261 piculs hemp, at the average price of		$4.00.....	$1,044 00
555 quintals cordage,	"	" 5.00.....	2,775 00
5 quintals hemp rope,	"	" 125.00.....	625 00
84.5 cavans coffee,	"	" 6.00.....	507 00
14,405 piculs sugar,	"	" 7.00.....	100,835 00
3,200 quintals indigo,	"	" 60.00.....	192,000 00
1,105 quintals liquid indigo,	"	" 3.50.....	3,867 50
18,825 piculs sapan-wood,	"	" 1.25.....	23,531 25
236 piculs shells,	"	" 8.00.....	1,888 00
31 piculs tortoise shell,	"	" 350.00.....	10,850 00
3,410 piculs sulphur,	"	" 2.50.....	8,525 00
2,610 piculs ebony,	"	" 1.75.....	4,567 50
1,532 piculs hulled rice,	"	" 1.50.....	2,298 00
42 piculs shark fins,	"	" 16.00.....	672 00
2,266 piculs bêche-de-mer,	"	" 24.00.....	54,384 00
5.68 piculs birds' nests,	"	" 130.00.....	738 40
94.24 piculs white birds' nests,		" 3,200.00.....	301,568 00
1,332 piculs dried crabs,	"	" 6.00.....	7,992 00
1,176 piculs pure cotton,	"	" 22.00.....	25,872 00
310 piculs glue,	"	" 2.50.....	775 00
1,192 piculs rattan,	"	" 4.50.....	5,364 00
1,280 piculs wax,	"	" 28.00.....	35,840 00
230 taels gold,	"	" 13.00.....	2,990 00
1,391 trunks timber,	"	" 1.25.....	1,738 75
1,066 cavans cowry shells,	"	" 2.00.....	2,132 00
1,000 cavans salt,	"	" .25.....	250 00
105 gantas cocoa,	"	" 1.50.....	157 50
1,348 gallons rum,	"	" .50.....	674 00
580 pairs plowshares,	"	" .50.....	290 00
420 carpenters' axes,	"	" .50.....	210 00
3,353 buffalo hides,	"	" .37½.....	1,257 37
3,153 cow hides (tanned)	"	" .75.....	2,364 75
684 stag hides,	"	" .13.....	88 92
1,280 mats,	"	" .30.....	384 00
731 buri mats,	"	" 1.00.....	731 00
748 hats,	"	" .30.....	224 40
Various.....			6,333 95
12 riding horses, at the average price of		50.00.....	600 00
			$806,945 29

There was, therefore, nearly three times as much imported as exported. The list of articles exported, with their prices, is interesting. Of the leading articles of today, sugar was the only one of importance, and even this came after white birds' nests and indigo. Comparing with this the table of Dr F. J. F. Meyen, on board the Prussian merchant ship *Prinzess Louise*, eleven

years later, we find a great increase in exports—in the case of sugar tenfold, though with hemp, again, not figuring at all.

He gives the exports as follows:

	1829.	1830.
Sugar	120,274 piculs.	138,387 piculs.
Indigo	11,809 "	13,863 "
Sapan-wood	11,675 "	11,594 "
Hulled rice	114,793 cavans. 104,357 piculs.	197,486 cavans. 179,532 piculs.
Unhulled rice (paddy)	30,830 cavans. 28,027 piculs.	
Rum	19,551 gallons.	
Cigars	4,595 arobas. 52,843 kilograms.	4,257 arobas. 48,955 kgr.

The remaining less important articles are omitted.

Since foreigners have ceased to be handicapped by Spanish discriminations, trade has steadily increased, even if not to the extent it should; the trade of the Philippines should be twenty times what it is today. At the end of the twenties, imports and exports were practically equal.

	Imports.	*Exports.*
1827	$1,048,680	$1,093,690
1828	1,550,933	1,475,034

Up to the seventies both had been increased more than tenfold, the exports considerably exceeding the imports. In round numbers, the trade for the years 1870, 1875, and 1880 may be stated as follows:

	Imports.	*Exports.*
1870	$14,000,000	$16,000,000
1875	13,000,000	19,000,000
1880	17,000,000	22,000,000

The only exception is the year 1872, when the exports stood at 16½ million dollars and the imports at 22 million dollars. In 1892 the exports were 33 million dollars; the imports 25 million dollars.

It is a difficult matter to give statistics of the imported goods, since there are innumerable articles not entered separately at the custom-house, but placed for the purposes of duty in certain classes. Some of the leading goods may, however, be mentioned. From England, Manchester articles figure conspicuously, together with a number of less important wares, such as hardware

and leather goods. From Germany come better-class textiles, tricots, hardware, paper, leather, steel and iron, machinery, etc. From Switzerland are imported St Gall laces, muslins and silks. From France come Lyons silks, machinery for cigarette making, and paper. Austria contributes principally Vienna furniture and Bohemian glassware. Belgium sends glass and glassware, iron, paper, cement, etc., while Russia and America furnish kerosene, and the latter country also sends flour and tinned meats. Spain formerly exported little but wines and preserved foods in tins. Within the last few years she has commenced sending to the Philippines other articles to compete with the wares of other countries. The Spanish goods are in every way inferior to those of foreign manufacture, and on account of their being free from import duty the prices are considerably lower.

In the following table the exports during the last five years are given. The minor articles have been omitted:

Principal Exports from the Philippines from January 1 to December 31, 1896

Countries.	Sugar.	Hemp.	Coffee.	Tobacco.	Cigars.	Sapan-wood.	Copra.
	Piculs.	*Piculs.*	*Piculs.*	*Quintals.*	*Thousands.*	*Piculs.*	*Piculs.*
To Great Britain	793,165	815,044	199	47,816	35,010	3,340	33,200
To United States	542,874	615,554	.....	132	180	.....	.....
To Europe	774,852	5,660	928	154,930	32,610	.....	548,812
To Australia	.....	33,892	.....	62	14,850	.....	.....
To China, Japan, and India	1,379,377	61,660	307	16,076	112,540	50,323	3,895
To Canada	97,920	.....	.....	.....	610	.....	.....
Total in 1896	3,588,188	1,531,810	1,434	219,016	195,800	53,663	585,907
Total in 1895	3,694,769	1,664,590	3,287	225,677	198,270	38,919	594,469
Total in 1894	3,109,108	1,591,962	9,008	194,500	140,075	75,115	510,633
Total in 1893	4,184,296	1,282,942	5,102	230,572	133,846	76,588	188,404
Total in 1892	3,954,060	1,581,100	21,801	254,063	133,404	52,452	292,536

Values—1894, 1895, and 1896

Articles.	1896.	1895.	1894.
Sugar	$14,000,000	$12,239,000	$12,590,000
Hemp	11,160,000	13,317,000	12,750,000
Coffee	67,500	158,000	412,000
Tobacco	2,630,000	2,707,750	2,310,000
Cigars	1,990,000	1,786,200	1,500,000
Sapan-wood	70,000	58,400	102,000
Copra	2,630,000	2,898,000	2,500,000
Various	224,000	60,800	115,000
Total	$32,771,500	$33,225,150	$32,279,000

The exports from Manila alone, the most important place to be considered, were during the past six years as follows:

Exports from Manila in the Years 1892–1897

Year.	Hemp.	Cordage.	Coffee.	Tobacco.	Cigars.
	Piculs.	*Piculs.*	*Piculs.*	*Quintals.*	*Thousands.*
1892	1,408,444	1,354	21,801	254,063*	133,395
1893	1,154,766	2,200	5,006	230,572*	130,320
1894	1,322,000	1,800	9,000	194,500*	138,000
1895	1,446,990	3,774	3,080	222,510*	198,270
1896	1,333,118	3,619	1,434	212,706*	195,800
1897	1,689,754	3,873	4,947	319,883*	183,735

Year.	Sugar.		Indigo.	Sapan-wood.	Copra.	Shells.
	Dry.	Wet.				
	Piculs.	*Piculs.*	*Quintals.*	*Piculs.*	*Piculs.*	*Piculs.*
1892	921,354	250,369	6,534	29,314	186,519	223
1893	1,359,737	521,980	971	53,767	168,122	254
1894	1,200,000	295,000	1,599	40,000	475,000	350
1895	1,440,000	285,159	26	27,210	226,626	1,367
1896	1,456,549	272,337	5,419	14,234	561,268	1,101
1897	839,994	82,062	4,468	16,631	749,207	1,180

The terms in the produce market in Manila are always cash down. In business with the provinces the Manila house has frequently to make advances, which certainly involves risk, though if one is cautious with whom one deals the business is safe enough. The main thing in the case of transmarine places just springing up is to know the exact state of affairs and to be in a position to form a sound judgment at a moment's notice. The business between the importers and the Chinese retail dealers is done either by means of acceptance (pagare) at six months or, as is now more general, cash within four to six weeks, with 5 per cent discount; but, unfortunately, the four to six weeks are very often exceeded. Insolvencies frequently occur among the Chinese. The creditors usually prefer to come to an arrangement, for if once the matter comes before a Spanish court it is the invariable rule that the creditors get nothing at all.

Fines (multas), particularly in differences with the custom-house, are imposed in a most annoying manner on every possible occasion, the officials receiving a share of the fine imposed. A ship which, for instance, does not deliver precisely the number of bales stated in the manifest is fined for each bale more or less $1,000. In every bill of entry the weight must be stated beforehand, and if it is not correct a fine is inflicted. In this way there are a hundred kinds of chicanery practiced, all costing much unnecessary expenditure of money, the greater part of which goes into the pockets of the officials.

* For the most part to Spain for the monopoly.

The tobacco monopoly, with all its heartless severity and imposts, was introduced in 1781, under the governor Don José Vasco y Vargas, the government, by no means for the first time, finding itself in a critical financial condition. The population guessed at what was coming and opposed the new measure, which was only carried out by force of arms. The law prescribed that every native might plant tobacco, but might only sell it to the government. In the tobacco districts every native had to grow a certain number of plants and devote all his attention to them. The collecting of caterpillars was done by women and children, just as it is today.

This might have been well enough had the people been able to enjoy the fruits of their labor; but the worst has still to be said. The tobacco was sorted, "aforado" as it is technically called, and that unfit for use burned, so as to prevent fraud. The principal matter in sorting was the length.

18 inches and over was primera (first) class.

18–14 inches was secunda (second) class.

14–10 inches was tercera (third) class.

10–7 inches was quarta (fourth) class.

Smaller but good leaves were sometimes classed as 5 and 6. For valuing the tobacco the officials used a scale, according to which the planter received some 20 to 30 per cent of the real value. But he was not paid in cash. He received a certificate, a kind of treasury bond. Had the people had security for the payment of these bonds at an early date the latter would soon, no doubt, have come into currency as paper money. But, far from this being so, no one would have them, knowing that five or six years might pass before they were redeemed. The tobacco planters lived under more miserable conditions than the worst-kept slaves, and were glad if some noble philanthropist would give them half the value of their certificates, for who could say whether the purchaser was not risking his 50 per cent. Frequently the bonds were practically given away. In the cigar manufactories in Manila 30,000 workpeople were employed, and were always paid in cash; so that their lot was more enviable than that of the planters. That under this system, in spite of the enormous army of officials, a profit of four or five million dollars was annually yielded can be easily understood.

The savior of the unfortunate tobacco planter was one of those Spaniards in whom there was still the blood of the hidalgo, the intendant-general Don José Jimeno Agius. In his report in

1871 he relentlessly exposed the condition of affairs under the monopoly and strongly advised its abolition, unless the government wished to destroy tobacco planting altogether and bring about the absolute ruin of the planters, who were living in the greatest misery. Furthermore, he showed that the necessary new buildings and plant in the factories would pretty well absorb all the profit of the ensuing year. This very competent and energetic man could not carry his wishes into effect at the time; but ten years later, in conjunction with the colonial minister, Fernando de Leon y Castillo, he was able to bring about the abolition of the monopoly, and on July 1, 1882, the planters were freed from their chains. On January 1, 1883, the free manufacture of tobacco was also allowed. The rate of duty was, however, raised, tobacco and cigars paying an export duty, while the import duty was raised 50 per cent. In the first place, the treasury bonds had to be redeemed, and this was done by means of auctions, whereby $150,000 was redeemed monthly, precedence being given to those holders who offered their bonds at the lowest rate. The government had even the impudence to declare that demands for more than 80 per cent would not be regarded. The first bondholders were ready to take 45 and 55 per cent, but it was soon found that a number of holders were prepared to take vigorous steps, refusing to accept less than 80 per cent. This caused the government to hasten the redemption, and at the close it had cleared a sum of two and one-half million dollars.

Since January 1, 1883, various cigar factories have been established, of which, however, only a few turn out a really first-class article. The cigars manufactured by many Chinese factories and in the homes of the natives are of very inferior quality.

A new tariff was introduced in 1891, which professed to be based upon a duty of 20 per cent. In reality, however, nearly all articles yielded more, some even yielding over 100 per cent on their value. Then there were various additional fees to pay on imports, and the export fees were also several times changed. Today the practice is as follows: To the import tariff, which in the case of some articles is increased by 20 per cent, are added harbor dues, amounting to 10 per cent and 8 per cent of the value of the goods, which is fixed by law. Spanish goods pay only the harbor dues and the 8 per cent of the value, thus getting upon the market to the disadvantage of other better and originally cheaper produce.

Of the products of the country the principal ones pay export duties as follows:

Hemp	$0 75	per 100 kilo.,	gross.
Indigo	50	"	"
Liquid indigo	05	"	"
Rice	2 00	"	"
Sugar	10	"	"
Cocoanuts and copra	10	"	"
Tobacco from Cagayan and Isabella	3 00	"	"
Tobacco from Visayas and Mindanao	2 00	"	"
Tobacco from other provinces	1 50	"	"
Manufactured tobacco	3 00	"	"

and all produce pays $1.50 per 1,000 kilo. harbor dues.

In 1880 the harbor dues on both exports and imports were raised—at first by 20 per cent of the import duty and 1 per cent of the export value—for the purpose of building a new harbor, and this, with some few alterations, remains so to this day. The harbor is a long way from being finished; nor will it ever be finished if the present system continues, even though of late the work has been a little expedited. At a normal rate of work, what has been done could have been finished in one or two years. With the amount received through the increased dues, ten harbors could have been built; but probably the money no longer exists.

The duty returns were, in—

1828	$227,000
1829	229,115
1830	228,061

In the last few years they have stood much higher, this being principally caused by foreign houses.

For the past three years the returns were:

	1895.	1896.	1897.
From foreign houses	$2,818,900	$3,106,100	$3,322,500
From Spanish houses	361,400	425,900	903,000
Total	$3,180,300	$3,532,000	$4,225,500

Thus the foreign houses paid of the indirect duties, in—

1895	87 per cent.
1896	88 "
1897	73 "

During recent years the Spanish figures have risen by reason of the increased export duties on tobacco which the Compañia General shipped for the Spanish monopoly.

NECESSITIES OF THE SITUATION

I now come to the question, "What must be done in order to bring the production and trade of the colony into the condition in which they should be?" The answer follows from what has already been stated. Before all, the system of administration must be changed and commerce and shipping, industry and mining, as also planting, given free play, quite independent of the nationality of the persons concerned. If the natives are not numerous enough to supply sufficient workmen, Chinese coolies should be brought over under government supervision, in the same way as is done in Sumatra. The export duties should be wholly abolished and the import duties put on a suitable basis. The harbor works at Manila should be completed and safe landing places should be provided for larger steamers, and if not a free port, at all events a bonded warehouse is necessary.

I mention first and principally Manilla, which will always remain the center and principal emporium. A beginning must be made by opening up Luzon, by laying down good roads and constructing bridges, of which today there is an absolute lack. The waterways should be controlled, particularly those which can be easily made navigable. The construction of railways should be continued, in order to connect the interior provinces with Manila. The most important line would be one from Manila through Nueva Ecija, the Caraballo mountains, the province of Nueva Vizcaya, into the valley of the Rio Grande de Cagayan. Then a branch of the line already existing from Manilla to Dagupan to the proposed naval port, Subig, which was recently decided upon, but has not yet been constructed. Communication with the Pacific coast and numerous branch lines will also gradually be required. Only a few points can be touched upon here.

A railway from Manila *via* Mariquina to Antipolo would be of great importance to Manila itself. It would pass through an extremely well-populated country, which already supplies Manila with agricultural produce and articles for the native population, and finally, after about 20 miles, ascending with a pretty steep gradient, would reach Antipolo.

Antipolo, a famous place of pilgrimage in the Philippines, lies on the west spurs of the cordillera, in the province of Morong. It enjoys a cool, agreeable climate, and therefore would without doubt form a very suitable health resort for the inhabitants of Manila, and indeed perhaps a climatic health resort in general. For Europeans working under great strain such a place would be invaluable, particularly during the hot season, when the night temperature falls so little that refreshing sleep is often quite out of the question. Nor is it absolutely necessary that Antipolo itself be chosen; a still more suitable spot might perhaps be found in the neighborhood; the chief point is to set about the matter in a practical way and properly carry through the scheme.

Antipolo is frequently visited by foreigners. As far as the Pasig the route lies over what, for the Philippines, are tolerably good roads, though miserably bad ones compared to those of English colonies. After crossing the river, a half day's journey further over roads which are nowhere good and in places are as bad as possible brings us through Cainta and Taitai to Antipolo. The effect of the journey is felt for hours afterward. In April, while the heat in Manila was unbearable, I have had to put on a summer overcoat in the evening in Antipolo.

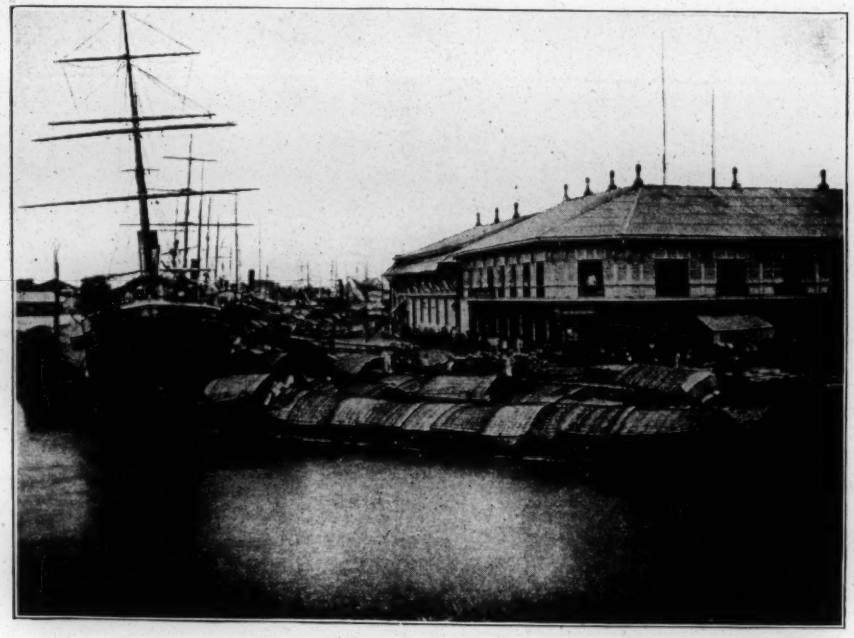
For such undertakings as I have mentioned, and which can only be carried out by companies, it is absolutely necessary that concessions be granted with promptness and dispatch. Hitherto the custom has been to dally for years, until finally all interest in the matter was lost. Once a concession was actually granted for a railway to Antipolo, but the line was never constructed.

It would take us too long to deal with everything which would aid in bringing the country rapidly into a prosperous condition and lead to lucrative undertakings. What should be done is in general to be gathered from a consideration of the present unsatisfactory state of affairs. If once the first step were taken, others would follow, not only in Luzon, but over the whole archipelago.

I must not omit to give some particulars of Manila itself.

At the place where the river Pasig, the outlet of Lake bay, flows into the Bay of Manila, lies on the left bank the fortified part of Manila, which, being inclosed by walls, is called Intra Muros. It is inhabited by monks, officials, soldiers, and a few shopkeepers. Foreigners do not reside there, nor have they property in it. Running southward along the shore of the bay

is the promenade, Luneta, where concerts are held every evening and where there are two suburbs, Ermita and Malate, much frequented by foreigners and containing many fine villas. On the right bank of the Pasig is the wholly unfortified part, called Binondo, where the chief business is done and where the foreigners have their stores and warehouses. The custom-house,



WHARF AT BINONDO

harbor office, and factories are also here. Further north, on the shore of the bay, is Tondo, a suburb consisting of native huts. To the east are Meisig and Trozo. These are the places lying on the beach. Up the river, on the right bank, are the suburbs Sta Cruz, Quiapo, San Miguel, Tanduai, Sampaloc. .

The population today is given at 300,000, but, as a proper census has never been taken, this cannot be regarded as exact. Including the population of the suburbs, the number of inhabitants is probably greater.

In the true sense of the word, Manila cannot be said to be unhealthy. On the contrary, it is one of the more healthy of tropical towns, though malignant and intermittent fevers do occur, even if less frequently than elsewhere. Cholera, which

formerly was often epidemic, has been completely driven away by the excellent water supply. The water comes from Santolan, about nine miles distant, and is collected in the reservoir at San Juan del Monte and thence conducted to Manila. There has been no outbreak of cholera since 1889.

For the water supply the governors-general Carrriedo and Moriones are to be thanked. Of these the first in his will left a sum of money to the town for the purpose, and the second, some years later, had the work carried out when no one else thought of troubling about it.

Houses have to be erected according to certain rules, laid down in order to guard against the frequent earthquakes. They are for the most part two-storied dwellings, below of stone and above of wood, with galvanized iron roofing. If the roof is tiled, the ceiling must be of planks strong enough to resist the fall of the roof. Since January 23, 1895, the town has been lighted by electricity, and the electric light has also been introduced in a number of houses. The installation was done in part by an American and has been continued by a German company. As yet there is no electric tramway, nor is electricity used industrially. This is principally due, no doubt, to the "Electricista"

CALLE SAN JACINTO, WITH THE AUTHOR'S OFFICE AND TOBACCO GODOWNS

Company, which has not yet been able to make its electric power station yield a good dividend.

There are horse-car lines in the city, and a steam street railway runs to Malabon, a large village situated to the north.

Besides the private vehicles, there are in the city a large number of hackney coaches. These are divided into three classes: the carruajes (landau, with two horses), quiles (two-wheelers, closed, door behind, one horse), and carromatas (two-wheelers, drawn by one horse). The latter are also used in the interior, so far as there are any roads. The transport of goods is carried on by means of two-wheeled carts, drawn each by a buffalo and holding some 1,000 kilos.

Life for foreigners in the Philippines is quite agreeable, and particularly so in Manila, where there are comfortable residences; nor is there lack of company, excursions, and other sources of recreation. In other respects, also, creature comforts are by no means neglected, provided the requirements are not too high. If once the city and its neighborhood were developed in the manner indicated, there would be little lacking to make life there thoroughly agreeable. Manila would then soon surpass all other tropical towns as regards health and comfort.

What the future may bring to the rich and beautiful Philippine islands it is difficult to say. It is, at all events, my sincere hope that this insular domain may soon blossom forth into that degree of importance to which it is by nature entitled.

A RECENT report of the British vice-consul at Hodeida on the Red sea contains some interesting information concerning the province of Yemen. Mocha, once its capital and the queen of the Red sea, has now only ruins to show what its glory was in the fifteenth century. Zabud, also a city of note in ancient times, is now a center of the trade in hides and skins. Except weaving a kind of cloth, dyeing, making mats and ropes, and building sailing vessels, there are no manufacturing industries. All the food grains are cultivated, however, and but for the unsettled state of the province and the want of education, the inhabitants would, it is said, be rich and prosperous. Hodeida is connected with the outer world by a line of mail steamers, and a weekly mail is sent to the chief towns of the interior. It is also connected by telegraph with Mocha and Sana, and with foreign countries through Perim. The population of the province is estimated at 3,000,000.

MANILA AND THE PHILIPPINES

By Major A. Falkner von Sonnenburg,

Imperial German Army, Late Military Attaché at Manila

After Admiral Dewey's splendid victory at Cavite, the neutral powers sent their ships as quickly as possible to Manila bay. It was expected that the quiet waters of the capital of the Philippines would become in the near future the scene of great military and naval activity, and that many still doubtful questions in modern warfare would there find a practical answer.

It was only by chance that Germany had at that time a relatively strong squadron at hand on the eastern station. The territory acquired in China only a few months before had made it necessary to assemble there two cruiser divisions, and as the news of the complete annihilation of the Spanish fleet became known, the admiral of one of these divisions had to go down from the Chinese and Japanese seas to the Philippines. The division was at that time engaged in drill and training in evolutions and target practice, and so it is easily to be understood that the division commander would not wish to divide his squadron, but, on the contrary, would be glad of the opportunity to make use of the trip down to Manila for training and evolutionary purposes. I do not believe that any order of the German government had been given to assemble a strong squadron at Manila. I understand that the leader of the division, who is fully responsible for the training of his men, had in this regard an absolutely free hand, as is usual in our navy and army.

But besides these purely technical reasons, it was to be considered that hundreds of our countrymen, who lived outside of Manila, scattered over the Philippine islands as traders, planters, or engineers, might be in a very dangerous position. The insurrection of the Filipinos against the Spanish rule had become general, and rumors were heard that all the small ports, like Iloilo, in the different islands, each of which contained a few of our countrymen, were besieged by the insurgents, and that their lives and property were in the greatest danger.

Under these circumstances it was to be expected that after the arrival of the squadron in Manila bay ships had to be detached

and sent to the small ports to look after the safety of our countrymen and the women and children of other nations.

It was to be expected that of the five ships which were first concentrated in Manila bay two or three would be always at sea, patrolling the islands and visiting the places which were said to be in imminent danger from the Tagals. The two powers at war, America and Spain, could not do that. The former had to remain in front of Manila in her full strength and could not make detachments for purely humanitarian purposes, and the latter was so broken down by the fall of Cavite that she could hardly look after such matters.

But there was still another reason for concentrating the division of Admiral von Diederichs in Manila bay, one worthy of special interest and consideration.

By such concentration on the quiet and well-protected waters of Marwetes bay, near Corregidor, the release from the navy of more than 1,700 trained men from the different ships, the embarking and discharging of necessary cargoes of ammunition and provisions for the men and officers could be easily done in a few days, whereas without concentration it would have taken many weeks. On June 29, 1898, the German naval division of Admiral von Diederichs had finished that work. The admiral had sent home 1,700 of his old, well-trained sailors and gunners. He had sent home two-thirds of his best and most experienced officers and men, who had been with him three years on the Asiatic station. He had replaced them with recruits, with men who had had only three months' land drilling, who had never been on board a man-of-war before, who had never fired a gun, who were to be the sailors and gunners of coming years, but were inexperienced at this critical time. And now may I ask the question whether any responsible flag-officer would or could do that if he had had the slightest idea, or belief, or wish, or intention, or instructions to meet an adversary in the near future?

It was a tropical hot midday of June when I received my first impressions of Manila and Manila bay.

On board the German cruiser *Prinzess Wilhelm* we passed first the high and wonderfully situated island of Corregidor, which commands the two passages into the interior of the wide bay, and on the top of which powerful American fortifications may be erected in later days. Next the peninsula of Cavite, on our right, came nearer and nearer, and soon the tops of the masts

of the American fleet behind it became visible; not only these, but also the wrecks of the sunken Spanish ships came into view. The victorious American fleet was anchored on the watery battlefield, and the spoils of her glorious fighting lay between her and the shore.

In front, just before the city of Manila, was a great squadron of neutral ships. There were three German, two French, two British, and one Japanese men-of-war, while between them were anchored chartered steamers full of refugees of the respective nationalities which Admiral Dewey's humanitarian warfare and broad-mindedness had allowed to be brought out of the besieged town, the only condition being that the Spanish vessels had to fly the flags of the respective countries which were responsible for their return to the American authorities after the surrender of the town.

Behind the neutral fleet, whose size was changed almost every day by incoming or outgoing ships, the churches and towers of Manila, still four miles away, rose one by one out of the sea, and then the palm and banana trees and the bamboo jungles became visible, inclosing, like another green ocean, the lower houses and buildings of the old city.

Far away the delicate blue line of high ranges of hills bordered this wonderful tropic picture with its warlike foreground, but peace seemed to rule everywhere on the beach. The steam launches of the neutral men-of-war rushed to and fro, carrying officers in white tropical dress who were making or returning calls. Boat drill was going on, and the yards of the neutral ships were hung with the laundry of their crews.

Small Tagal sailing boats alongside the men-of-war were bargaining with stewards about the price of fruits and vegetables. Sometimes a vessel flying a strange and hitherto unknown triangular flag crossed the waters of the bay from Cavite to Malabon filled with dark men—the Filipinos under their new colors.

When the moon rose in her full tropical grandeur over the darkening sea, when the electric lights shone here and there on the great iron and steel structures which rocked quietly in the phosphorescent waters of the bay like big whales, then flashed out the search-lights of the American fleet over from Cavite, then could you see also the dark red fire balls of exploding shells near Malate and hear the continuous crackling of musketry.

Then you knew that there was war, that another of the Filipino

night attacks was going on, and that again men were losing their lives in the bamboo jungles and rice fields round Manila.

From the refugee steamers near by the sound of Spanish guitars swept over the quiet sea, and silvery clear voices of girls could be heard and merry laughter! There they danced their national dances, the Andalusiana and Castillana, on the dirty decks of the vessels, lighted perhaps by only one smoky oil lamp, while officers of the different navies formed the enthusiastic audience of the graceful performers.

Quite a different picture was to be seen in the besieged town, Manila, itself. The deep Pasig river, running down from the large lake (Laguna de Bay) to the sea, divides the town into two parts, differing in their inhabitants, their buildings, their social life, and indeed in almost everything. To the left of the river is the old town Intra Muros. This purely Spanish town is surrounded by the walls of the fortress and covers a space of perhaps three-quarters of a mile square. Here the conquering Spaniards first settled 300 years ago. Massive stone buildings, including the government house, the archbishop's palace, monasteries, and cathedrals, line the narrow, dirty streets and squares, in which you meet scarcely any one but monks, soldiers, and dark, proud officials. There is no modern, quick-running life in that mediæval town; there are no shops, no offices, no trade. One-third of all the buildings are the property of the church or of the different orders of monks, and another third is composed of the government houses and military establishments.

Having passed the dark fortress doors and the sleepy sentries before them, you feel in a foreign, long-past world. Here is the residence of that administration which believed that it could still be possible in our time to separate a gifted native population of more than seven millions from all that modern culture had produced. From this place issued those ominous decrees which prohibited the importation of any books or papers for the natives which had not the sanction of the church, and did not allow the poor man to raise more than one crop of rice a year for his own sustenance, even to prevent his coming to want. Here was settled that division of the whole island of Luzon between the four enormously wealthy and powerful orders of Augustinians, Dominicans, Franciscans, and Des Récollets, and the government could only silently approve such an arrangement, knowing well that in that country it could rule only by and through the omnipotent monks. Like that of mediæval lords,

their rule was autocratic and absolute—an iron regime not only for the natives but for every government official who might have dared to cross the ways of the priestly lords.

Since the days when the pious Spanish discoverer, holding in one hand the sword and in the other the cross, took possession of these islands, 300 long years ago, has lasted this terrible misrule over this unfortunate people. But at last the reaction against that incredibly anachronistic administration took place. A highly gifted young Tagale, educated in Europe and having great poetical talent, was able by his songs and poems to excite his countrymen against the Spanish rule, and when some years ago that man was arrested by the government and shot, without trial, on the Luneta in Manila, the Filipinos began their first insurrection against the hated priest-government.

Terrible atrocities were committed at that time on both sides, and there was hard fighting, too; but at last the Spanish government succeeded in overcoming the more open resistance. But the fire was not extinguished. A secret society, the "Katipuna," spread its membership over the whole island of Luzon, preparing another surprise! The murdered poet had acquired the fame of a national hero and martyr, and mysterious tales were told in all the Tagale villages that he lived still in the mountains in the interior, to come down at the right moment to take the leadership of his people in the great fight for independence. And then the second insurrection began. The terrible scenes of cruelty were repeated, but again without any decisive result. A sort of armistice was arranged at the end of 1897 between the young Tagale leader, Aguinaldo, and the Spaniards, and this continued until the beginning of the recent American-Spanish war and the glorious battle of Cavite.

Strange tales, indeed, these time-blackened government buildings in Intra Muros can tell. They know many things about a flourishing Japanese colony that existed two hundred years ago in Manila town. Thirty thousand industrious Japanese once filled the streets of the old city, and the best regiments of the Spanish government in those olden times were composed of Japanese warriors, but the narrow-mindedness and intolerance of the Spanish rulers drove out the followers of Buddha. The Japanese warriors, the Samurais, and the industrious and able workmen left this unfriendly and inhospitable country at the same time, and that long sleep began which was to end at last with the thunder of Admiral Dewey's guns.

But we will leave the old haunted town. It is an unwholesome place, full of evil spirits and horrible memories. We will pass the Pasig river, with its resting blockaded ships, and enter the modern city of Binondo, full of life and traffic and of the great business houses of the white man.

The streets are crowded with Spanish voluntarios, who are very conspicuous in their swell uniforms, filling all the cafés and beer-houses. The Spanish volunteers seemed to me to have quite a different opinion about their military duties from that held by the Americans. The former refused with indignation to do duty in the trenches outside the town. They declared to the captain-general that they were not willing to do such poor, plain, private-soldiers' work, and that they preferred only to make the "guard routine" in the interior of the city, and with old Castilian pride they have done that tiresome, but rather safe work. I found the public buildings in Binondo occupied by strong detachments of well-dressed, well-nourished, and well-armed young men, who helped themselves through the hardships of the war by playing cards and smoking innumerable cigarettes. We will leave them to their innocent doings inside the town and walk to the circle of the widely extended suburbs of Ermita and Malate.

The more we advance, the more the character of the streets changes. No more the crowd of people playing at soldiering; no more the symptoms of untroubled safety. The streets become absolutely empty; all the shutters of the houses are hermetically sealed and the whistling of passing Mauser bullets can be heard; sometimes they strike the walls of the brick country houses of the wealthy Manila people with a short, dry noise, or perforate the miserable bamboo huts of the natives. The only living beings you can see are small bodies of Spanish regulars, marching carelessly in the middle of the enfiladed road to the ill-famed trenches. They look haggard and worn out, but they are brave men, and do not care for whistling bullets. Silent, dull, and hopeless as are these poor unfortunate privates and their subaltern officers of the front, they do their duty scrupulously. For three months they have lived in the trenches; they sleep there, they eat there, they fight there, and they are buried there.

The Spanish forces are widely extended around the suburbs of the town in a circle of sixteen miles; no carefully regulated relief service is in operation, and all military preparations give the impression of improvisations. In the trenches it is still

worse; the low ground has prevented the making of deep ditches, as water appears at a depth of from two to three feet, and so it was found necessary to bring out sand-bags and by other artificial means get the necessary height for the covering breastwork. Careless of the danger from whistling bullets are the Spanish soldiers lying in those miserable intrenchments; apathetic everywhere; no activity, not even the wish or the will to improve the very imperfect shelter; such was the general impression upon a military expert; and the tropical sun sends down its fiery arrows to the marshy land, with its numberless small creeks and water ditches, and brews there the worst enemy of the soldier—sickness.

A marshy ground, tropical vegetation, jungles of bamboo, and swampy rice fields are the condition of the land that the Spanish military leaders had to deal with. Thus modern long-range firearms can be used to their full effect only under very rare circumstances. The view is nearly always limited to a hundred yards or less, and is never so extended as to make the full use of such arms possible. The artillery is, practically speaking, absolutely dependent upon the very bad roads; driving across the fields, as in European or American battlefields, is almost impossible. For the same reasons which do not allow the use of the higher sights of the rifles, the artillery fire can never develop that overpowering strength which we attribute to it in modern warfare. The batteries must therefore unlimber within the best range of the rifle shots, so that casualties in the artillery may be considered as disproportioned to its real effect. That cavalry in such a country had to remain nearly always in the rear, and that even reconnaissances are in most cases better performed by infantry, is easily to be understood. In brief, the character of the country seems to be almost ideal for the kind of warfare which military men call "guerrilla fighting."

Only a very methodical and slow warfare gives reliable and *enduring* results. Block-houses must be built from one line to the next, fortified points must be constructed on all river passages and strategical points, if the inhabitants of a large country make a serious and continued resistance.

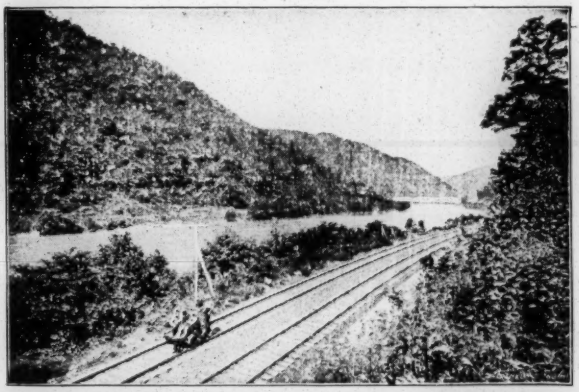
Spain had never taken such absolutely necessary military measures, and only in view of this can it be understood that with every Tagal insurrection the whole interior of the country was in the hands of the insurgents and Spanish rule was reduced to the maintenance of the seaports round the islands.

The chronic want of money and perhaps also of energy, the influence of the monks and friars, who may have been jealous of seeing another influence than their own established in the interior of all these islands, gives explanation enough of the fact that the Spanish rule has never been powerful in that country; but a stronger, more energetic, and more gifted race, with unlimited financial resources, may do in the future all that the former masters failed to do in *three centuries.*

If the Spanish government was weak from the military point of view, it was not less so from the standpoint of *diplomacy*, in the conciliation and real pacification of the Filipino natives.

Only *one* religious order succeeded, with its incomparable knowledge of the human heart, with its fine psychological and diplomatic means, in being loved and esteemed by native and government alike. If the friars and the various orders of monks were hated with all the energy of a long-oppressed race, the refined padres and monsignores of the famous society of the Jesuits, remained immune from all these savage feelings. They had understood that it was not the priest in his religious capacity, but the priestly lord, the priestly landowner, who excited the Filipinos, and so the Jesuits never tried to accumulate property in the interior. They built up a magnificent scientific observatory, with the most valuable instruments of astronomy, seismology, magnetism, and meteorology. They connected their observatory with all the other meteorological stations in the far east, and saved by their prompt warnings hundreds of lives and millions of dollars. When war times came over the country thousands of poor, homeless, and sick Tagale men, women, and children found a home in the wide courts and arcades of the Jesuits' colleges. They had formed a safeguard of miserables for their own safety with this praiseworthy mercy. They could be sure that they would remain undisturbed in their scientific work, although between the fighting lines. The same men that lived in the refined atmosphere of the highest intellectuality understood the necessity of mercy. The same scrutinizing eyes that read every morning the tales of the self-registering instruments understood also human nature and human hearts, and they have given to the former rulers of the islands a noble lesson. They have taught them that there are things in the world other than guns; they have taught them the eternal truth that science, knowledge, is and shall be power.

C & O ROUTE



F. F. V. LIMITED

CHESAPEAKE & OHIO RY.

THE F. F. V. LIMITED is one of the finest trains hauled over any railway track in America. It runs solid between Cincinnati and New York, the route from Washington being over the Pennsylvania system. It has every modern convenience and appliance, and the dining-car service has no superior if it has an equal. The road-bed is literally hewed out of the eternal rocks; it is ballasted with stone from one end to the other; the greater portion is laid with one-hundred-pound steel rails, and although curves are numerous in the mountain section, the ride is as smooth as over a Western prairie.

One of the most delightful rides in all the route is that through the New River valley. The mountains are just low enough to be clad with verdure to the very top, and in the early spring every variety of green known to the mixer of colors can be seen, while the tones in autumn take on all the range from brown to scarlet.

These facts should be borne in mind by the traveler between the East and the West.

H. W. FULLER, *Genl. Pass. Agent, Washington, D. C.*

CALIFORNIA..

OF course you expect to go there this spring. Let me whisper something in your ear. Be sure that the return portion of your ticket reads via the . . .

Northern Pacific-Shasta Route.

Then you will see the grandest mountain scenery in the United States, including **Mt. Hood** and **Mt. Rainier,** each more than **14,000** feet high, **Mt. St. Helens, Mt. Adams,** and others. You will also be privileged to make side trips into the **Kootenai Country**, where such wonderful new gold discoveries have been made, and to **Yellowstone Park,** the wonderland not only of the United States, but of the World. Park season begins **June 1st** each year. Close railroad connections made in Union Station, Portland, for Puget Sound cities and the east, via **Northern Pacific.**

CHAS. S. FEE,
General Passenger Agent, St. Paul, Minn.

SR SOUTHERN RAILWAY

GREATEST SOUTHERN SYSTEM.

Penetrates with its main line or branches eight States South of the Ohio and Mississippi Rivers, and in conjunction with its friendly allied connections reaches all the commercial centers of the South and Southwest . . .

DOUBLE DAILY VESTIBULED LIMITED TRAINS

. . . BETWEEN . . .

Washington, Memphis and Nashville via Salisbury, Asheville, Knoxville and Chattanooga.
Washington and Tampa via Columbia, Savannah and Jacksonville.
Washington and Memphis via Atlanta, Birmingham and K. C. M. & B.
Washington and New Orleans via Atlanta, Montgomery and Mobile.
Norfolk and Chattanooga via Salisbury, Asheville and Knoxville.

Pullman Sleeping Cars—Dining Cars—Day Coaches.
Additional Trains for local travelers . . . . . .

The direct line to the Winter Resorts of { FLORIDA, GULF COAST and TEXAS, ... MEXICO and CALIFORNIA,

—AND THE BEST—

Through Car Line to and from Asheville and Hot Springs—"The Land of the Sky."

Write for Map Folders.

A. S. THWEATT, Eastern Passenger Agent, 271 Broadway, New York, N. Y.
J. C. HORTON, Passenger Agent, 201 E. Baltimore Street, Baltimore, Md.
L. S. BROWN, General Agent, 705 Fifteenth St. N. W., Washington, D. C.
W. H. DOLL, Passenger Agent, Norfolk, Va.
S. H. HARDWICK, Assistant General Passenger Agent, Atlanta, Ga.
C. A. BENSCOTER, Assistant General Passenger Agent, Chattanooga, Tenn.
W. H. TAYLOE, Assistant General Passenger Agent, Louisville, Ky.
J. M. CULP, Traffic Manager. W. A. TURK, General Passenger Agent.

The Mutual Life Insurance Co.

OF NEW YORK,

RICHARD A. McCURDY, President,

Is the Largest Insurance Company in the World.

The Records of the Insurance Department of the State of New York SHOW THAT The Mutual Life

Has a Larger Premium Income - - -	**($39,000,000)**
More Insurance in Force - - - - -	**($918,000,000)**
A Greater Amount of Assets - - - -	**($235,000,000)**
A Larger Annual Interest Income - - -	**($9,000,000)**
Writes More New Business - - - -	**($136,000,000)**
And Pays More to Policy-holders -	**- ($25,000,000 in 1896)**

THAN ANY OTHER COMPANY.

It has paid to Policy-holders since its organization, in 1843, - - $437,005,195.29

ROBERT A. GRANNISS, Vice-President.
WALTER R. GILLETTE, General Manager. FREDERIC CROMWELL, Treasurer.
ISAAC F. LLOYD, Second Vice-President. EMORY McCLINTOCK, Actuary.
WILLIAM J. EASTON, Secretary.

Burlington Route

TO

ST. PAUL

BEST LINE
CHICAGO OR ST. LOUIS

MINNEAPOLIS

Ripans Tabules cure headache.

The Fastest and Finest Train in the West . . . .

IS

UNION PACIFIC
THE OVERLAND ROUTE
WORLD'S PICTORIAL LINE

The Overland Limited

.....TO.....

UTAH and CALIFORNIA.

FROM 16 TO 20 HOURS
SAVED BY USING

"THE OVERLAND ROUTE."

Double Drawing-Room Pullman Sleepers.
Free Reclining Chair Cars.
Pullman Dining Cars.
Buffet Smoking and Library Cars.

Send for Descriptive Pamphlet "49-96," Folders and other Advertising Matter.
(Mention this publication.)

E. L. LOMAX,
General Passenger and Ticket Agent,
OMAHA, NEB.

THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY

. . RUNS . .

Electric Lighted and Steam Heated Vestibuled Trains between **Chicago, Milwaukee, St. Paul and Minneapolis** daily.

Through Parlor Cars on day trains between **Chicago, St. Paul and Minneapolis.**

Electric Lighted and Steam Heated Vestibuled Trains between **Chicago and Omaha and Sioux City** daily.

Through Sleeping Cars, Free Reclining Chair Cars and Coaches between **Chicago and Kansas City, Mo.**

Only two hours from Chicago to Milwaukee. Seven fast trains each way, daily, with Parlor Car Service.

Solid trains between **Chicago** and principal points in **Northern Wisconsin** and the **Peninsula of Michigan.**

Through Trains with Palace Sleeping Cars, Free Reclining Chair Cars and Coaches between **Chicago** and points in **Iowa, Minnesota, Southern and Central Dakota.**

The **finest Dining Cars** in the World.

The **best Sleeping Cars. Electric Reading Lamps in Berths.**

The best and latest type of **private Compartment Cars, Free Reclining Chair Cars, and buffet Library Smoking Cars.**

Everything First-class. First-class People patronize First-class Lines.

Ticket Agents everywhere sell tickets over the Chicago, Milwaukee and St. Paul Ry.

GEO. H. HEAFFORD,
General Passenger Agent, Chicago, Ill.

WHENEVER YOU VISIT WASHINGTON . .

YOU ARE INVITED TO INSPECT THE

✻ MAMMOTH DRY GOODS ESTABLISHMENT ✻

OF

WOODWARD & LOTHROP

Where the **LATEST PARIS NOVELTIES** are always on Exhibition.
The attention of those who anticipate purchasing . . . . .

BRIDAL TROUSSEAUX

Is invited especially to extreme PARIS NOVELTIES in matched sets of French Hand-made Lingerie, including Gowns, Skirts, Chemises, Drawers, Corset Covers, &c. These can be furnished in any number of pieces desired. . . . . .

HAND-MADE BRIDAL TROUSSEAUX, personally selected in Paris and exclusive in style and design: Three or more pieces . . . . . **$10 to $250.**

CORRESPONDENCE SOLICITED. MAIL ORDERS RECEIVE PROMPT AND CAREFUL ATTENTION.

TENTH, ELEVENTH, AND F STREETS N. W. . . . . WASHINGTON, D. C.

Shortest Line
TO
St. Paul and Minneapolis
and the Northwest

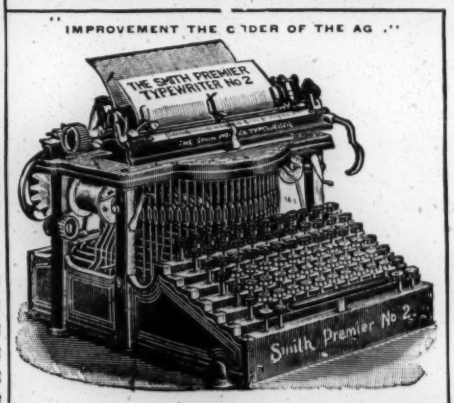
CHICAGO GREAT WESTERN
RAILWAY

"Maple Leaf Route"

For tickets, rates or any detailed information apply to your home agent or write to

F. H. LORD,
Gen'l Pass'r and Ticket Agent,
CHICAGO.

A VITAL POINT



A TYPEWRITER'S PRINTING MECHANISM

MUST BE SCIENTIFICALLY CONSTRUCTED. THIS POINT IS OF UTMOST IMPORT FOR

EASY OPERATION AND PERFECT EXECUTION.

The Smith.. Premier Typewriters

Superior on This Point as Well as on All Others.

ONLY CORRECT PRINCIPLES EMPLOYED.

The Smith Premier Typewriter Co.,
SYRACUSE, N. Y., U. S. A.

Catalogues and Information at Washington Office, No. 519 Eleventh Street.

THE AMERICAN ANTHROPOLOGIST.

The only American magazine devoted to the science of Anthropology in all its branches is THE AMERICAN ANTHROPOLOGIST, published at the National Capital. This journal is now in its *twelfth* year of increasing usefulness.

No magazine ever published on the Western continent is such a storehouse of authentic information concerning ARCHEOLOGY, ETHNOLOGY, FOLK-LORE, TECHNOLOGY, SOCIOLOGY, HISTORY, SOMATOLOGY, PSYCHOLOGY, PHILOSOPHY, and PHILOLOGY. Its contributions to our knowledge of these subjects, especially in so far as they relate to the **American Indians**, past and present, are of world-wide authority. Its contributors are America's foremost scholars.

Is *your* name on the subscription list of the ANTHROPOLOGIST? If not, it should be. No one interested in anthropology in any of its branches can afford to be without it. *Subscribe today.* A new volume begins with the January number.

Handsomely Printed—Abundantly Illustrated.
Published Quarterly—Four Dollars a Year.
Volume XII Begins with January, 1899.

ADDRESS: **THE AMERICAN ANTHROPOLOGIST,**
G. P. Putnam's Sons, 27 and 29 West 23d Street,
New York City.

COMMENCED JANUARY, 1888. TWO VOLUMES PER YEAR.

THE AMERICAN GEOLOGIST,
1899.

The Oldest Exclusively Geological Magazine Published in America

TERMS.

To Subscribers in the United States, Canada and Mexico..... ... **$3.50** a year
To other Subscribers in the Postal Union..... **4.00** a year

The ***AMERICAN GEOLOGIST*** is issued monthly from the office of publication at Minneapolis, Minnesota, United States of America. Twenty-two volumes are completed; the twenty-third began with the number for January, 1899. The magazine has received a cordial welcome and a generous support from leading geologists everywhere and it is now recognized as the exponent of the rapid geological progress that is taking place on the continent of North America, including Canada, the United States and Mexico. Nowhere else in the world are geologic phenomena exhibited on a more extensive scale and nowhere else are results attained of greater economic and scientific importance.

The ***AMERICAN GEOLOGIST*** lays before its readers from month to month the latest results of geological work. In addition to the longer papers it gives synopses of recent geological publications and brief notes on current geological events.

THE GEOLOGICAL PUBLISHING CO.,
MINNEAPOLIS, MINN.

NATIONAL GEOGRAPHIC MONOGRAPHS

On the PHYSICAL FEATURES OF THE EARTH'S SURFACE, designed especially to supply to teachers and students of geography fresh and interesting material with which to supplement the regular text-book.

LIST OF MONOGRAPHS COMPRISING VOLUME I:

GENERAL PHYSIOGRAPHIC PROCESSES	J. W. Powell
GENERAL PHYSIOGRAPHIC FEATURES	J. W. Powell
PHYSIOGRAPHIC REGIONS OF THE UNITED STATES	J. W. Powell
BEACHES AND TIDAL MARSHES OF THE ATLANTIC COAST	Prof. N. S. Shaler
PRESENT AND EXTINCT LAKES OF NEVADA	Prof. I. C. Russell
APPALACHIAN MOUNTAINS—NORTHERN SECTION	Bailey Willis
APPALACHIAN MOUNTAINS—SOUTHERN SECTION	C. Willard Hayes
MT. SHASTA—A TYPICAL EXTINCT VOLCANO	J. S. Diller
THE NEW ENGLAND PLATEAU	Prof. W. M. Davis
NIAGARA FALLS AND ITS HISTORY	G. K. Gilbert

Price for one set of ten monographs, **$1.50.** Five sets to one address, **$6.00.** Single monographs, **20c.**

Remit with order to AMERICAN BOOK COMPANY,

New York - Cincinnati . Chicago

Ripans Tabules assist digestion.

TERRESTRIAL MAGNETISM

AND

ATMOSPHERIC ELECTRICITY

An International Quarterly Journal

Conducted by L. A. BAUER and THOMAS FRENCH, Jr.,
With the Co-operation of Eminent Magneticians and Electricians.

WITH the March, 1899, issue, this Journal, devoted exclusively to Terrestrial Magnetism, Atmospheric Electricity, and allied subjects, such as Earth Currents, Auroras, etc., entered on its fourth volume. The hearty co-operation extended by the workers in this promising field of investigation, as abundantly shown by the numbers thus far issued, has made this Journal the international organ for making known the latest achievements. The magnetic needle has become such a promising instrument of research, not only in terrestrial, but in cosmical physics, that this Journal appeals to a large class of investigators. The geographer, the geologist, the astronomer, the meteorologist—all are interested in the development of the subject of terrestrial magnetism. It should therefore receive their support.

Among the contributors of the main articles in the past have been Messrs. Barus, Börgen, Chree, Commander Davis, Eschenhagen, Hellmann, Littlehales, McAdie, Rücker, Schmidt, Schuster, de Tillo, von Bezold, Mascart, and Abbe.

Future numbers will contain contributions by Mascart, Rücker, Elster and Geitel, Eschenhagen, Hellmann, Hayford, Littlehales, Schmidt, and others.

Special features in future numbers will be full abstracts and reviews of recent publications prepared by competent reviewers and the series of fine half-tone portraits of eminent magneticians.

The size of the Journal is royal octavo, a volume embracing about 256 pages. Domestic subscription price: **Two dollars and fifty cents.** Foreign subscription price: **Two dollars and seventy-five cents.**

Address:

TERRESTRIAL MAGNETISM,
The University of Cincinnati, Cincinnati, Ohio.

PEOPLE like to read about the great and wonderful country of the **Southwest;** of its quaint and curious towns, its ancient civilizations, its natural marvels. They like to get accurate information about **California and the Pacific Coast.** This is because most people want to some day see these things for themselves. . . . . .

A charming book covering these facts is issued by the

PASSENGER DEPARTMENT
OF THE
Southern Pacific Railway,

and will be sent to any one, postpaid, on receipt of **TEN CENTS.**

THE BOOK IS ENTITLED

"Through Storyland to Sunset Seas,"

You can get a copy by writing to

S. F. B. MORSE,
General Passenger Agent,
Southern Pacific,
New Orleans,

and sending **10 cts.** to defray postage.

AND IS A WONDERFULLY HANDSOME VOLUME OF **205** PAGES, WITH **160** ILLUSTRATIONS. . . .

The paper used is FINE PLATE PAPER, and every typographical detail is artistic. It is a story of what four people saw on just such a trip as you would like to make. . . . . .

For the most complete, authoritative, and attractive publication on the KLONDIKE, send for the April, 1898, number of THE NATIONAL GEOGRAPHIC MAGAZINE, containing large official map and numerous illustrations. By mail for 25 cents.

For the best up-to-date description of CUBA, physical, political, and industrial, send for the May, 1898, number of THE NATIONAL GEOGRAPHIC MAGAZINE, containing numerous maps, diagrams, and illustrations, including fine portrait of Captain Chas. D. Sigsbee, U. S. N. By mail for 25 cents.

For a chart of the world, 48 by 30 inches, showing all CABLE AND OVERLAND TELEGRAPH LINES, and also COALING, DOCKING, AND REPAIRING STATIONS, with explanatory article, send for number 3 of volume 7, NATIONAL GEOGRAPHIC MAGAZINE. By mail for 25 cents.

JUDD & DETWEILER, PRINTERS, WASHINGTON, D. C.